

Figure 1

3266403v1
22602/095373

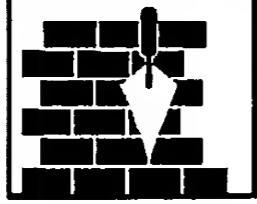
BEST AVAILABLE COPY

UNIT PRICE CATALOG			Location Factor: 0.94			MASTER [BASELINE] RCM		
© 2002 Project Planning & Management, Inc.			Sales Tax: 6.0%			Berrien City, MI		
			Ave Sub Gen'l Conditions: 2%			Cost Adjustments		
System	Description		Base Unit	Adjusted Unit		Loc_Fctr	S_Tax	Sub_GC
			Cost	Cost	Unit			
col_sprd_ftg	3000 PSI concrete							
1.	forms, rebar, concr, placing, finish		\$204.00	\$201.35	CY	0.94	3%	2%
spnd_ftg	3000 PSI concrete							
1	Not Req'd (Trench Footing)		\$0.00	\$0.00	LF			
2	12" thick x 18" wide; forms, reinf, direct chute		\$12.06	\$11.90	LF	0.94	3%	2%
3	12" thick x 24" wide; forms, reinf, direct chute		\$13.71	\$13.53	LF	0.94	3%	2%
4	(For Precast Foundations) 12" thick x 24" wide; 3/4" stone bedding		\$2.22	\$2.19	LF	0.94	3%	2%
fdn_drain								
1	PVC 4" dia; gravel drain bed		\$4.00	\$3.95	LF	0.94	3%	2%
2	PVC 6" dia; gravel drain bed		\$5.00	\$4.94	LF	0.94	3%	2%
fdn_wall	4' high foundation wall		(deduct of 4*\$0.70 eliminates 1" rigid insul)					
1	Poured-8"; bitum/damp; sill plates		\$20.44	\$20.17	LF	0.94	3%	2%
2	Poured-10"; bitum/damp; sill plates		\$23.60	\$23.29	LF	0.94	3%	2%
3	Poured-10"; brickledge; bitum/damp; sill plates		\$31.16	\$30.75	LF	0.94	3%	2%
4	Poured-12"; bitum/damp; sill plates		\$26.08	\$25.74	LF	0.94	3%	2%
5	Poured-12"; brickledge; bitum/damp; sill plates		\$33.64	\$33.20	LF	0.94	3%	2%
6	Block-8", grouted; bitum/damp; parging; sill plates		\$37.84	\$37.35	LF	0.94	3%	2%
7	Block-10", grouted; bitum/damp; parging; sill plates		\$42.44	\$41.89	LF	0.94	3%	2%
8	Block-12", grouted; brickledge; parging; bitum/damp; sill plates		\$47.28	\$46.67	LF	0.94	3%	2%
9	Pre-Cast Wall System; bitum/damp; sill plates		\$22.80	\$22.50	LF	0.94	3%	2%
10	ICF (Insulated Concrete Foundation); sill plates		\$32.70	\$32.28	LF	0.94	3%	2%
11	Trench footing/grade beam; 12" poured/reinf; earth formed; no insul		\$21.76	\$21.48	LF	0.94	3%	2%
12	Wood 2x8; 16"OC; CDX sheathing; vapor; 9" insul R-30		\$24.04	\$23.73	LF	0.94	3%	2%

Figure 2

3266403v1
22602/095373

BEST AVAILABLE COPY

SECTION 7: BUILDING SYSTEMS


This final section will explore and document your quality expectations for various building systems in your new home. These decisions are important as they will directly affect the construction budget. In addition, building envelope selections (walls, roof, windows, insulation) will also impact energy heat loss calculations.

01 Foundation
011 Standard Foundations

Sand/Gravel Soil Sand/Clay Soil Problem Soils (e.g., water; low soil bearing capacity)

02 Substructure
021 Slab on Grade

4" thick (standard) 5" thick 6" thick

022 Excavation: Basement

No Basement Crawlspac

Full Basement Partial Bsmt (some of Ground Floor living area on slab)

023 Basement Walls

Wall Material Poured concrete Concrete block/parging Wood foundation

"Superior" Precast Foundation Wall System w/1" insulation

Waterproofing Standard Protection Premium Protection

Insulation None 1" Rigid (R-5) 2" Rigid (R-10) 3" Rigid (R-15)* (recommended)

*Energy Star

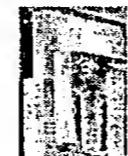
03 Superstructure
031 Floor Construction

NOTE: Priced from least to most expensive per SF of floor system (left to right)

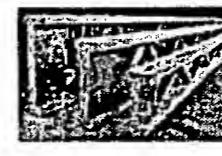
1 Composition "I" Joists
(Standard spans to 24')
* 1" x 3" Ceiling furring not required



2 Dimension lumber (e.g. 2x12)
(Standard spans to 19')
* Material readily available



3 Truss Joists
(Standard spans to 24')
* Utilities easily pass through


032 Roof Construction

House SIP / Timber Frame
Garage SIP / Glu Lam Ridge Beam
Dormers SIP

Prefab trusses Dimensional lumber (e.g. 2x10)
 Prefab trusses Dimensional lumber (e.g. 2x10)
 Dimensional lumber (e.g. 2x8)

SIP Thickness SIP Not Used
 4.5" OSB/OSB (R-18)

8.25" OSB/OSB (R-34) 10.25" OSB/OSB (R-42)
 6.5" OSB/OSB (R-27) 12.25" OSB/OSB (R-45)

SIP Interior Finish 1/2" Gypsum Board

Tongue & Groove "T&G" (pine or cedar)

033 Stair Construction

Basement Stair Basement stairs, open riser

Pine treads/risers, box stairs, WALLS 2 SIDES/handrail only

Pine treads/risers, box stairs, balusters/handrail, newel post

Ground Floor Stair Pine treads /risers (pine), box stairs, balusters/handrail, newel post

Hardwood treads / risers, box stairs, WALLS 2 SIDES, balusters/handrail, newel post

Hardwood treads / risers, box stairs, balusters/handrail, newel post

Curved stairway (hardwood), open 1 side Curved stairway (hardwood), open 2 sides

Auxiliary Stair None

Attic stair; folding; pine; 8'-6"

Pine treads / risers (pine), box stairs, handrail, newel post

Spiral stairs, oak

Hardwood treads / risers, box stairs, handrail, newel post

Spiral stairs, metal

Figure 3

3266403v1
22602/095373

BEST AVAILABLE COPY

ZIP CODE	CITY	STATE	Regional Adjustment Factor	Winter Design Temp		Heating DD	Cooling DD	Sales Tax	Sub. GC	Escalation
				99%	97.5%					
35000	Cullman	AL	0.85	17	21	2,823	1,881	4%	1.2%	1.50%
35200	Birmingham	AL	0.86	17	21	2,823	1,881	4%	1.2%	1.50%

Figure 4

ENERGY MODEL		TOTAL FINISHED AREA (TFA): 4,778 SF		MASTER [BASELINE] RCM			
© 2002 Project Planning & Management, Inc.		TOTAL CONSTRUCTED AREA: 8,358 SF		Berrien City, MI 4 Bedroom; 5 Bath			
Enter:	State	Residential Energy Code	State Mandate	Comments			
MI	Michigan	Michigan Uniform Energy Code Part 10 Rules, less stringent than 1992 MEC	Yes	Prior to June 22, 1977, the state of Michigan had no building energy efficiency requirements. On July 27, 1985, the state adopted ANSI/ASHRAE/IES Standard 90.1-1980 statewide. SB 719, signed in early January 1996, repealed the 1995 adoption of the 1993 MEC. The legislation directed the state construction code commission to, by April 1, 1997, provide cost-effective standards and establish a program to provide home buyers with energy rating information. The Michigan Uniform Energy Code Part 10 Rules were adopted March 31, 1999.			
Envelope Heat Loss		Area (SF)	R-Value	U Factor	Delta T	Heat Loss (BTUH)	
Heat Loss-Basement Walls		1,821	6	0.16	22	6,359	
Heat Loss-Basement Floor (or Ground Fir Slab)		3,193	25	0.04	22	2,814	
Heat Loss-Walkout Wall		1,500	14	0.07	69	7,555	
Heat Loss-Walls		440	14	0.07	69	2,206	
Heat Loss-Windows (Low-E) Default (R-3)		585	3	0.33	69	13,455	
Heat Loss-Windows Standard Glazing (R-2)		0	2	0.50	69	-	
Heat Loss-Windows (Low-E) Triple Glaze (R-6)		0	6	0.17	69	-	
Heat Loss-Doorwalls		126	3	0.33	69	2,898	
Heat Loss-Doorwalls		0	3	0.33	69	-	
Heat Loss-Doors		84	5	0.20	69	1,159	
Heat Loss-Roof SIP (on Timber)		1,030	36	0.03	69	2,439	
Heat Loss-Floor SIP (on SIP)		0	0	0.00	69	-	
Heat Loss-Attic (Uninsulated Roof Rafters)		547	16	0.06	69	2,383	
Heat Loss-Skylights		0	3	0.33	69	-	
						Building Envelope Heat Loss 41,268 BTUH	
Envelope Tightness		Select > 4 Energy Star Very Tight	0.25 ACH (Air Changes / Hour)	Design Occupancy:	5		
Infiltration / Ventilation		CFM	ACH	Constant	Volume	Delta T	Heat Loss (BTUH)
Natural Infiltration		303	0.25	1.08	72,764	69	22,593
Mechanical Ventilation w/AALX		424	0.35	1.08	72,764	18	8,251
75% AALX Efficiency		141.09	Min Target CFM				
Envelope + Infiltration Heat Loss =		72,113	BTUH				
Furnace AFUE =		90%	2	<Select Furnace Eff.			
Furnace Size =		80,126	BTUH				
D = Degree Days =		6,439	Berrien City, MI				
T = Temp diff =		69	degrees				
V = Fuel value =		1,052	BTUH per cu ft natural gas				
V = Fuel value =		91,713	BTUH per Gallon propane				
V = Fuel value =		3,413	BTUH per KWH electric				
CF1 =		1.36 Correction factor that includes the effects of rated full load efficiency, part load performance, over sizing and energy conservation devices.					
CF2 =		0.71 Empirical correction factor for heating effect versus 65 degrees F degrees-days.					
E = Annual Energy Consumption =		164,715 cu ft natural gas 1,009 gallons of propane - KWH of electricity (100% Efficiency)			\$0.58 cost per therm NGAS \$0.0058 cost per CF of nat gas \$0.95 cost per gallon Propane \$0.075 cost per KWH of Electricity (Assumes Average Off Peak and Peak)		
Annual Heating Cost =		\$955.35 NGAS					
Annual Heating Cost =		\$1,794.32 PROPANE					
Annual Heating Cost =		\$0.00 ELECTRIC					

Figure 5

3266403v1
22602/095373

BEST AVAILABLE COPY

HOME SPECIFIC QUALITY / COST SELECTIONS		Selection Switches	TOTAL FINISHED AREA: 4,778 SF		MASTER [BASELINE] RCM		P21		
237 System Selections © 2002 Project Planning & Management, Inc.			TOTAL CONSTRUCTED AREA: 8,358 SF		Benton City, MI 4 Bedroom; 5 Bath				
SYSTEM SELECTIONS		SUBSYSTEM	quan	unit	unit \$	total \$	BASELINE	TOTAL	Savings
011 Standard Foundations									
011.10	Spread footings (timber columns)	1	12" thick x 30", forms, rebar, concrete	9	NCOLS	\$46.61	\$419	\$419	\$0
011.10	Spread footings (lally columns)	1	12" thick x 30", forms, rebar, concrete	5	EA	\$46.61	\$233	\$233	\$0
011.20	Spread footings (foundation walls)	4	12" thick x 24" wide, forms, reinf, direct chute	43	LF	\$13.53	\$582	\$582	\$0
011.20	Spread footings (basement walls)	5	12" thick x 24" wide, forms, reinf, direct chute, PVC 6" gravel drained	352	LF	\$18.47	\$6,506	\$6,506	\$0
011.30	Foundation Wall (4' high)	1	Poured-B; bitum/damp; sill plates	230	LF	\$31.17	\$4,640	\$4,640	\$0
011.40	Excavation Foundation Wall Footing	2	4' depth spread fg excav, sand/gravel; backfill; no compctn; rough grade	345	SF	\$10.39	\$136	\$136	\$0
012 Special Foundations		1	No additional special foundations	345	SF	\$0.00	\$0	\$0	\$0
021 Slab on Grade									
021.00	Ground Floor Slab on Grade	3	Not Used	0	SF	\$0.00	\$0	\$0	\$0
021.00	Garage Floor Slab on Grade	1	4" slab w/4" gravel base; 6 mil vap; expand mat; W1.4/W1.4; steel trowel finish	864	SF	\$2.69	\$2,328	\$2,328	\$0
021.00	Basement Slab on Grade	3	4" slab w/4" gravel base; 6 mil vap; expand mat; W1.4/W1.4; steel trowel finish	3,198	SF	\$2.69	\$8,517	\$8,517	\$0
021.10	Basement Slab Insulation	1	Not Used	0	SF	\$0.00	\$0	\$0	\$0
022 Excavation: Basement									
022.00	Off Site Trucking	1	Assumes off-site hauling NOT required (Assumes on site placement of spoils)	0	CY	\$0.00	\$0	\$0	\$0
023 Basement Walls									
023.00	Partial Height Basement Wall Framing	1	Poured-B; bitum/damp; sill plates	1,821	BWA	\$5.37	\$9,643	\$9,643	\$0
023.10	Basement Wall Insulation	1	Not Used	0	BWA	\$0.00	\$0	\$0	\$0
023.10		1	None	1,821	BWA	\$0.00	\$0	\$0	\$0

Baseline Selections

HOME SPECIFIC QUALITY / COST SELECTIONS		Selection Switches	TOTAL FINISHED AREA: 4,778 SF		MASTER [BASELINE] RCM		P21		
237 System Selections © 2002 Project Planning & Management, Inc.			TOTAL CONSTRUCTED AREA: 8,358 SF		Benton City, MI 4 Bedroom; 5 Bath				
SYSTEM SELECTIONS		SUBSYSTEM	quan	unit	unit \$	total \$	BASELINE	TOTAL	Savings
011 Standard Foundations									
011.10	Spread footings (timber columns)	1	12" thick x 30", forms, rebar, concrete	9	NCOLS	\$46.61	\$419	\$419	\$0
011.10	Spread footings (lally columns)	1	12" thick x 30", forms, rebar, concrete	5	EA	\$46.61	\$233	\$233	\$0
011.20	Spread footings (foundation walls)	4	12" thick x 24" wide, forms, reinf, direct chute	43	LF	\$13.53	\$582	\$582	\$0
011.20	Spread footings (basement walls)	5	12" thick x 24" wide, forms, reinf, direct chute, PVC 6" gravel drained	352	LF	\$18.47	\$6,506	\$6,506	\$0
011.30	Foundation Wall (4' high)	1	Poured-B; bitum/damp; sill plates	230	LF	\$31.17	\$4,640	\$4,640	\$0
011.40	Excavation Foundation Wall Footing	2	4' depth spread fg excav, sand/gravel; backfill; no compctn; rough grade	345	SF	\$10.39	\$136	\$136	\$0
012 Special Foundations		1	No additional special foundations	345	SF	\$0.00	\$0	\$0	\$0
021 Slab on Grade									
021.00	Ground Floor Slab on Grade	3	Not Used	0	SF	\$0.00	\$0	\$0	\$0
021.00	Garage Floor Slab on Grade	1	4" slab w/4" gravel base, 6 mil vap; expand mat; W1.4/W1.4; steel trowel finish	864	SF	\$2.69	\$2,328	\$2,328	\$0
021.00	Basement Slab on Grade	3	4" slab w/4" gravel base, 6 mil vap; expand mat; W1.4/W1.4; steel trowel finish	3,198	SF	\$2.69	\$8,517	\$8,517	\$0
021.10	Basement Slab Insulation	1	Not Used	0	SF	\$0.00	\$0	\$0	\$0
022 Excavation: Basement									
022.00	Off Site Trucking	1	Assumes off-site hauling NOT required (Assumes on site placement of spoils)	0	CY	\$0.00	\$0	\$0	\$0
023 Basement Walls									
023.00	Partial Height Basement Wall Framing	1	Poured-B; bitum/damp; sill plates	1,821	BWA	\$5.37	\$16,792	\$16,792	\$0
023.10	Basement Wall Insulation	1	Not Used	0	BWA	\$0.00	\$0	\$0	\$0
023.10		1	None	1,821	BWA	\$0.00	\$0	\$0	\$0

Alternate Selections illustrating self documenting line item changes to component costs and Self-Correcting feature (Line 022 Basement Excavation) wherein "ERROR" was triggered when "Walkout Basement" was deselected in '40' Design Characteristics, requiring selection of Full Basement excavation options.

Figure 6

**Residential Cost Estimation
Construction Summary
"Component Options"**

- Control Document that provides outline construction descriptions of the building systems as selected by the Owner.
- Serves a similar purpose as site and engineering drawings would provide in that scope and construction requirements are called out for site, structural, mechanical, electrical and plumbing systems.
- Controls which material options are to be selected in cases where options exist in the guide spec sections.

**Guide Specifications
CSI MASTERFORMAT
Divisions 1-16**

- Detailed Guide Specifications including all 16 CSI Divisions

Division 1 - General Requirements
Division 2 - Site Construction
Division 3 - Concrete
Division 4 - Masonry
Division 5 - Metals
Division 6 - Wood And Plastics
Division 7 - Thermal And Moisture Protection
Division 8 - Doors And Windows
Division 9 - Finishes
Division 10 - Specialties
Division 11 - Equipment
Division 12 - Furnishings
Division 13 - Special Construction
Division 14 - Conveying Systems
Division 15 - Mechanical
Division 16 - Electrical

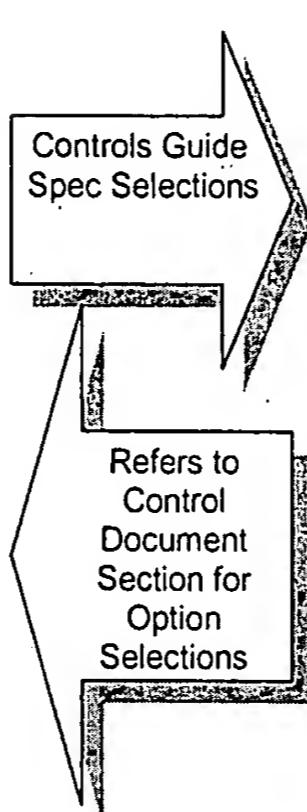


Figure 7

3266403v1
22602/095373

BEST AVAILABLE COPY